Small Bowel Tumours

Cancer of the small intestine is rare; it accounts for only 3-6% of all gastrointestinal neoplasms and less than 1% of all malignant tumours.[1] The diagnosis is difficult to make preoperatively because the condition is so uncommon in clinical practice and because the symptoms are vague and often non-specific.[2] The reason for the rarity of the tumours is not known; explanations include the fluidity and relative sterility of small bowel contents and the rapid transit time, which reduces any exposure to potential carcinogens. More recently it has been suggested that local immune responses are able to suppress the development of tumours.[3]

Small bowel neoplasms occur usually between the ages of 40 and 70 years and men and women are equally affected.[4] More malignant than benign lesions are seen,[5] and more than 90% of the malignant lesions are symptomatic.[2] The two most common symptoms of malignant lesions are loss of weight and abdominal pain,[6] which is often colicky, suggesting obstruction. Nausea and vomiting can occur, sometimes associated with the pain, the site of which is of little help in the diagnosis.[5] Gastrointestinal bleeding and altered bowel habits are other common symptoms, but there is no characteristic clinical pattern. Benign tumours are much more likely to be asymptomatic, often being found incidentally at operation or necropsy. If symptoms do present pain is the most common, but insidious loss of blood leading to anaemia is another frequent manifestation.

The length of history of small bowel tumours is surprisingly long, and asymptomatic intervals lasting weeks are frequently described.[7] More than half the patients with a malignant lesion have symptoms present for longer than six months and in a recent series of cases symptoms had been present for longer than one year in 30% of patients.[2] Diagnosis is either made by a barium meal and follow-through examination (50%) or by laparotomy; palpable masses are found in less than 30% of cases, though this figure is variable.

Special syndromes exist which may help in the diagnosis. A carcinoid tumour associated with liver metastases produces the characteristic flush, diarrhoea, and heart disease of the carcinoid syndrome.[8] In the absence of metastases and the carcinoid syndrome the majority of small intestinal carcinoids remain clinically silent.[9]

The Peutz-Jeghers's syndrome,[10] in which multiple polypoid hamartomas are found, predominantly in the small bowel, is inherited as a single dominant trait. The melanin pigmentation seen in the lips and the buccal and nasal mucosa gives the diagnosis. In Gardner's syndrome[11] polyps are present in the small and large bowel. Multiple cutaneous soft tissue tumours and osteomas are sometimes seen in this condition, which is probably inherited as an autosomal dominant. Finally in the Cronkhite and Canada syndrome[12] diffuse gastrointestinal polyposis is associated with alopecia, nail dystrophy, and hyperpigmentation.

In what sort of patients should there be a high suspicion of a small intestinal neoplasm? Recent reports suggest an association between chronic regional enteritis (Crohn's disease) and small bowel adenocarcinoma.[13] The association, though rare, seems convincing and may occur in patients who have had a bypass operation for Crohn's disease. Small bowel villous adenomas appear to have the same relationship to carcinoma as in colonic lesions, and there is also a high incidence of additional primary tumours in patients in whom one small bowel neoplasm has been found.[14] Lastly, there is a strong association between adult coeliac disease (gluten enteropathy) and malignant lesions of the small bowel.[15] Indeed if a treated patient with coeliac disease relapses then either he is not sticking to his diet or a malignant lesion has developed. Both lymphoma and carcinoma occur, but the incidence of carcinoma is reduced if the patient is treated with a gluten-free diet; this is as yet unproved for lymphomas.[16] These findings justify the continued use of a gluten-free diet for the whole of the patient's life.

Treatment for neoplasms of the small bowel is usually resection, with occasional radiotherapy for a malignant lesion. Resection of a benign tumour gives a cure, but the outlook for malignant lesions is gloomy. The five-year survival after diagnosis of an adenocarcinoma varies from 16·4 to 32%, 25% being inoperable at the time of laparotomy.[2] Figures for lymphoma range from 31 to 40% five-year survival, while over half the patients with the carcinoid syndrome will survive five years.

If susceptible patients are to be recognized awareness of the condition must improve—but the diagnosis is not always obvious, and the treatment is inadequate at present.

1 Ebert, P. A., and Zuidema, G. D., *Archives of Surgery*, 1965, **91**, 452.
2 Silberman, H., Crichlow, R. W., and Caplan, H. S., *Annals of Surgery*, 1974, **180**, 157.
3 Calman, K. C., *Gut*, 1974, **15**, 552.
4 Richlin, D. B., and Longmire, W. P., Jr., *Surgery*, 1961, **50**, 586.
5 Southam, J. A., *Annals of the Royal College of Surgeons of England*, 1974, **55**, 129.
6 Wilson, J. M., *et al.*, *Annals of Surgery*, 1974, **180**, 175.
7 Ostermiller, W., Joergenson, E. J., and Weilbel, L., *American Journal of Surgery*, 1966, **111**, 403.
8 Sjoersdma, A., and Melmon, K. L., *Gastroenterology*, 1964, **47**, 104.
9 Kuiper, D. H., Gracie, W. A., and Pollard, H. M., *Cancer*, 1970, **25**, 1424.
10 Bussy, H. J. R., *Gut*, 1970, **11**, 970.
11 Sachatello, C. R., Pickren, J. W., and Grace, J. T., *Gastroenterology*, 1970, **58**, 699.
12 Cronkhite, L. W., and Canada, W. J., *New England Journal of Medicine*, 1955, **252**, 1011.
13 Tyers, G. F. O., Steiger, E., and Dudrick, S. J., *Annals of Surgery*, 1969, **169**, 510.
14 Reyes, E. L., and Talley, R. W., *American Journal of Gastroenterology*, 1970, **54**, 30.
15 Barry, R. E., and Read, A. E., *Quarterly Journal of Medicine*, 1973, **42**, 665.
16 Holmes, G. K. T., *et al.*, *Gut*, 1974, **15**, 339.
17 Naqvi, M. S., Burrows, M. D., and Kark, A. E., *Annals of Surgery*, 1969, **170**, 221.

Neonatal Nurse Practitioners

Doctors are beginning to realize that responsibility which has traditionally been in their domain can be delegated safely to others. If they do not realize this they should visit the U.S.S.R.[1] or China,[2] where physicians' assistants are responsible for much of the primary care. Alternatively, they can look to the U.S.A., where several types of specialist nurse have evolved.[3] The obstetric and paediatric fields are particularly suitable for nurse practitioners. Many areas of America have in addition to midwives other registered nurses working either independently or in multidisciplinary practices or hospitals as paediatric nurse associates, family nurse practitioners, and well-baby nurse practitioners. A new species has recently entered the scene in Arizona: the neonatal nurse practitioner.[4]

The job of the neonatal nurse practitioner includes much of what a neonatal house officer does in Britain. She examines newborn infants and identifies anatomical abnormalities and physical signs. She has the knowledge and skill to order investigations such as a chest *x*-ray or an estimation of the blood sugar and is able to start therapy while waiting for the paediatrician. She discusses the condition of the baby with the mother, including giving her information on infant care and feeding.